REMARKS

Applicant respectfully requests reconsideration of this application as amended.

Claims 1, 10, 22 and 23 have been amended. Claims 6, 9, 11, 16, 19-21 and 24 have

been cancelled without prejudice. New claims 25-29 have been added. Therefore, claims

1-5, 7-8, 10, 12-15, 17-18, 22-23 and 25-29 are presented for examination. The

following remarks are in response to the final Office Action, mailed September 22, 2008.

35 U.S.C. § 103 Rejection

Claims 1-4 and 10-14 are rejected under 35 U.S.C. §103(a) as being unpatentable

over Wolford, U.S. Patent No. 6,185,692 ("Wolford") in view of Lee et al., U.S. Patent

No. 5,815,734 ("Lee") and further in view of Culbert, et al., U.S. Patent No. 6,820,209

("Culbert").

Claim 1, as amended, recites:

An apparatus comprising:
a variable speed bus, the variable speed bus initialized with a first clock
        frequency;
a first unit coupled to the variable speed bus, the first unit having a first
        rate of requests to access the variable speed bus;
a second unit coupled to the variable speed bus, the second unit having a
        second rate of requests to access the variable speed bus; and
an arbitration and bus clock control unit to monitor the first access request
        rate from the first unit and the second access request from the
        second unit, and to determine a second clock frequency for the
        variable speed bus based on the first access rate or the second
        access request rate, wherein the arbitration and bus clock control
        unit is further modified to track a rate of request of the first and
        second units to access the variable speed bus, the arbitration and
        bus clock control unit is further modified to recognize when there
        are no incoming requests and a percentage of arbitration slots that
        are being used, and to instruct a clock throttling logic to adjust a
        clock frequency associated with the variable speed bus according
        to bandwidth requirements of the first and second units based on
        the rate of request, the adjusting of the clock frequency includes
        lowering the clock frequency to a lowest level necessary in
        accordance with the recognition of no incoming requests and the

<u>percentage of the arbitration slots being used</u>. (emphasis added)

Applicant respectfully disagrees with the Examiner's characterization of the references and the pending claims and maintains the previous argument; however, for the sake of expediting issuance of this case, Applicant proposes additional amendments to the pending claims and submit the following remarks.

Wolford discloses a "*data processing system includes a bus, one or more loads coupled to the bus, and a clock generator. The clock generator generates a bus clock signal that is coupled to at least one of the loads.* While the clock generator is generating a bus clock signal having a first frequency, the number of loads connected to the bus is determined. In response to this determination, the frequency of the bus clock signal is automatically changed from the first frequency to a second frequency. In one embodiment in which the bus is a PCI local bus having a plurality of slots, the determination of the number of loads is made by examining at least one storage location associated with each of a plurality of slots." (Abstract; emphasis added; see also Fig. 1, col. 3, lines 6-19, 37-42; col. 4, lines 6-12, 34-41, 62-66).

Wolford's changing the bus clock frequency based on the number of loads coupled to the bus whether the loads are active or idle is the same as having "**an arbitration and bus clock control unit to monitor the first access request rate from the first unit and the second access request from the second unit,** and to determine a second clock frequency for the variable speed bus based on at least one of the first access rate and the second access request rate, wherein the arbitration and bus clock control unit to track a rate of request of the first and second units to access the variable speed bus, **the arbitration and bus clock control unit is further to instruct a clock throttling logic to adjust a clock frequency associated with the variable speed bus according to**

bandwidth requirements of the first and second units based on the rate of request"
as recited by claim 1 (emphasis added).

The Examiner relies on Lee and Culbert to make up for the deficiencies of
Wolford. Lee discloses "facilitating operation of a peripheral bus, such as a PCI bus, at a
higher clock frequency . . . If the system determines that the clock frequency will change
due to a change in the system configuration (such as PCI devices being added or removed
from the PCI bus), the configuration registers of each of the PCI devices can be modified
to insure proper operation at the new clock frequency." (Abstract).

Referring now to a section relied upon by the Examiner, Lee discloses "[i]t should
be understood, however, that more or less peripheral devices may be used, as desired and
as permitted by the system specifications. Each of the peripheral devices 70, 80
preferably includes a status register 57, constructed and configured similarly to the status
register of the BIU 50. In addition, each of the peripheral devices 70, 80 connects to the
PCI bus 100 and to the CLK and 66 MHzENABLE lines, respectively . . . The clock
driver 55 connects to the 66 MHzENABLE line to check the status of that line. If the 66
MHzENABLE line is asserted (i.e., pulled high), then the clock driver 55 drives the PCI
bus clock signal at a frequency up to 66 MHz. Conversely, if the 66 MHzENABLE line is
deasserted (i.e., drive low), the clock driver 55 drives the PCI bus clock signal at a
frequency up to 33 MHz. Thus, in the preferred embodiment, the speed at which the PCI
bus clock signal is driven by clock driver 55 is dependent on the status of the 66
MHzENABLE line." (col. 5, lines 31-59).

Referring now to the section of Culbert relied upon by the Examiner for support,
Culbert discloses "*the arbitration unit 208 determines which of the resources, besides
the display interface 210, needs access to the local memory 202*. When less than all of

these resources need access to the local memory 202, the local memory interface 204, the local memory 202 and the memory bus 206 can be operated at a reduced speed because the amount of bandwidth required with respect to the local memory 202 is reduced." (col. 6, lines 44-51). Culbert's ***arbitration unit to determine which resource, besides the display device, need access to the local memory*** is **not the same** as having an arbitration and bus clock control unit to monitor the first access request rate from the first unit and the second access request from the second unit . . . to determine a second clock frequency for the variable speed bus based on the first access rate or the second access request rate . . . to track a rate of request of the first and second units to access the variable speed bus as recited by claim 1. Culbert's arbitration unit does not perform the features of the arbitration and bus clock unit of claim 1 and thus, it does not make up for the deficiencies of Wolford. Like Culbert, Lees also does not teach or reasonably suggest the features of claim 1 and thus, it does not make up for the deficiencies of Wolford.

Claim 1, as amended, further recites "arbitration and bus clock control unit is further modified to recognize when there are no incoming requests and a percentage of arbitration slots that are being used, and to instruct a clock throttling logic to adjust a clock frequency associated with the variable speed bus according to bandwidth requirements of the first and second units based on the rate of request, the adjusting of the clock frequency includes lowering the clock frequency to a lowest level necessary in accordance with the recognition of no incoming requests and the percentage of the arbitration slots being used". (emphasis added).

Furthermore, Applicant respectfully traverses the aforementioned rejection for the following reasons.

According to MPEP §2142

[t]he key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.*, 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007) noted that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Federal Circuit has stated that 'rejections on obviousness cannot be sustained with mere conclusory statements; instead there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.' *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006). See also *KSR*, 550 U.S. at ___, 82 USPQ2d at 1396 (quoting Federal Circuit statement with approval).

Further, according to MPEP §2143, "[T]he Supreme Court in *KSR International Co. v. Teleflex, Inc.* 550 U.S. ___, ___, 82 USPQ2d 1395-1397 (2007) identified a number of rationales to support a conclusion of obviousness which are consistent with the proper "functional approach" to the determination of obviousness as laid down in *Graham*." And, according to MPEP §2143.01, [o]bviousness can be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so. *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1335 (Fed. Cir. 2006). Further, "[t]he mere fact that references <u>can</u> be combined or modified does not render the resultant combination obvious unless the results would have been predictable to one of ordinary skill in the art." *KSR International Co. v. Teleflex, Inc.* 550 U.S. ___, ___, 82 USPQ2d 1385, 1396 (2007).

Wolford, Lee and Culbert, neither individually nor when combined, teach or reasonably suggest all the features of claim 1 and a ***prima facie* case of obviousness has not been met** under MPEP §2142. Accordingly, Applicant respectfully requests the withdrawal of the rejection of claim 1 and its dependent claims.

Claim 10 contains limitations similar to those of claim 1. Accordingly, Applicant respectfully requests the withdrawal of the rejection of claim 10 and its dependent claims.

New Claims 25-29

New claim 25 contains limitations similar to those of claim 1. Thus for the same reasons as discussed above with respect to claim 1, Applicant respectfully submits that new claim 25 and its dependent claims are allowable over the cited references.

Claims 22-23 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wolford, U.S. Patent No. 6,185,692 ("Wolford") in view of Lee et al., U.S. Patent No. 5,815,734 ("Lee) and further in view of Barr, et al., U.S. Patent Publication No. 2005/0044442 ("Barr").

Claims 22 and 23 depend from one of claims 10 and thus include all the limitations of the corresponding base claim. Thus, for the same reasons as discuss above regarding claims 1 and 10, Applicant respectfully requests the withdrawal of the rejection of claims 22 and 23.

Claims 5, 7, 8, 15, 17 and 18 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wolford, U.S. Patent No. 6,185,692 ("Wolford") in view of Lee et al., U.S. Patent No. 5,815,734 ("Lee) and in further view of Culbert, et al., U.S. Patent No. 6,820,209 ("Culbert"), and further in view of common knowledge in the data processing art at the time of the invention with and without the patent granted Keeley, U.S. Patent No. 5,844,794 ("Keeley").

Claims 5, 7, 8, 15, 17 and 18 depend from one of claims 1 and 10 and thus include

all the limitations of the corresponding base claim. Thus, for the same reasons as discuss above regarding claims 1 and 10, Applicant respectfully requests the withdrawal of the rejection of claims 5, 7, 8, 15, 17 and 18.

Conclusion

In light of the foregoing, reconsideration and allowance of the claims is hereby earnestly requested.

Invitation for a Telephone Interview

The Examiner is requested to call the undersigned at (303) 740-1980 if there remains any issue with allowance of the case.

Request for an Extension of Time

Applicants respectfully petition for an extension of time to respond to the outstanding Office Action pursuant to 37 C.F.R. § 1.136(a) should one be necessary. Please charge our Deposit Account No. 02-2666 to cover the necessary fee under 37 C.F.R. § 1.17(a) for such an extension.

Charge our Deposit Account

Please charge any shortage to our Deposit Account No. 02-2666.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Date: December 22, 2008   /Aslam A. Jaffery/
Aslam A. Jaffery
Reg. No. 51,841

12400 Wilshire Boulevard
7th Floor
Los Angeles, California 90025-1030
(303) 740-1980